

AMENDMENTS TO THE SPECIFICATION

Please delete the three consecutive paragraphs beginning on line 13 of page 13, and ending on line 4, page 14, and substitute therefor the following three paragraphs:

Figure 5 shows is a schematic representation of another embodiment of the apparatus of the present invention shown in Fig. 1, illustrating the addition of an arc detector/suppressor detector, 96, and an evacuation system, 98, which, as will be described in more detail hereinbelow, includes including a HEPA filter in the event that the chamber pressure exceeds as chosen pressure, say, 65 psi gas/vapor pressure, as measured on pressure transducer, 99, or when there is an electric power failure and the chambers must be vented into the atmosphere. ~~A pressure relief valve, adapted to open when the chamber pressure is greater than 65 psi gas/vapor pressure has also been added to increase safety.~~

Figure 6 shows is a schematic representation of an embodiment of the arc detector, 96, ~~detector/suppressor~~ referred to in Fig. 5 hereof illustrating fiber-optic transfer of light from the chamber of Fig. 5 to a photodetector, and a microprocessor for shutting down the microwave source in the first chamber of the sterilizer in response to an arc. Optical fiber, 100, extends through upper chamber wall 14, and is adapted for receiving light generated from within chamber 10 as a result of arcing, and for transferring any received light therefrom to photodetector, 102. ~~The light emitted from electrical arcing is detected by the photodetector which triggers the automatic failsafe response of the system; that of turning off the microwave source until the source of the arcing can be located and corrected.~~ Electronics/microprocessor, 104, receives the electronic signals from photodetector, 102, and shuts down microwave source 32 supplying microwave radiation to upper volume 18 of sterilizer 10 in response to an arc. Turning off the microwave source is an automatic failsafe system response that allows the source of arcing to be located and corrected without damage occurring to either the sterilizer or its contents. It is expected that the microwave source 32 in the first sterilizer chamber can be shut down in response to instrument sparks exceeding 2-10 Watts in light power (30 % of this light is detected ~~due to~~ as a

result of geometrical considerations). Tube, 106, flanges, 108, and photodetector housing, 110, provide vacuum, pressure and light-tight enclosure for photodetector, 102.

Figure 7 is shows a schematic representation of a evacuation system 98 for safely venting steam and other gases pass from the sterilization chamber 10 through a HEPA filter as a part of normal venting operations, and also in the event of a failure of the electric power or an overpressure in the chamber. It is intended that evacuation system 98 replace escape valve 54 shown in Figs. 1 and 2 hereof and evacuation valve 56 and pump 58, also shown therein. In operation, pressure transducer 99 may be set to detect sterilization chamber pressures in excess of, say, 65 psi at which point an electrical signal generated by pressure transducer 99, which may be amplified using electronics, not shown in the figures, directs valves, 114 and 116, which are otherwise maintained in a closed position during operation of sterilization chamber 10, to their normally open positions. Valves 114 and 116 can also be opened during an electric power failure, or during normal sterilizer chamber venting operations. The filter Gases and vapors escaping from sterilization chamber 10 are directed through HEPA filter, 122, thereby preventing-prevents the emission discharge of residual pathogens from being discharged into the environment. during and after sterilization in the Additionally, during evacuation operations of the present sterilizer described hereinabove, valves 114 and 116 are kept closed, valve, 118, is kept closed, and valve, 120, is opened to permit pump 58 to exhaust chamber 10 through HEPA filter 122. In the event that it is desirable to directly exhaust chamber 10 using pump 58, valves 114 and 116 are closed, and valves 118 and 120 are opened. In the event of a power failure, high pressure gases in the sterilizer pass through a normally open solenoid valve and through the HEPA filter before being vented.

AMENDMENTS TO DRAWING FIGURES

Applicant has amended originally filed Figures 1-7.

Figures 1 and 2 have both been amended to add the word "Source" after "Microwave" in order to better conform with the language in the Specification, as originally filed, identifying microwave radiation sources **32**, **48** and **60**, described on pages 10 and 11 thereof.

Similar changes have been made to Fig. 5. In addition, callouts have been added to the elements described in the figure to better facilitate their description in the amendments to the Specification set forth hereinabove. Callout **16** has been moved to better indicate that it relates to the lower portion of the wall of chamber **10** (See page 9, lines 24-28 of the Specification). Elements **54**, **56** and **58** have been deleted from Fig. 5 and replaced with Evacuation System, **98**, and Pressure Transducer, **99** (see REMARKS hereinbelow).

Figure 6 has been amended to include callouts for the elements described in the figure. The word "Sterilizer" has been deleted, and "Upper" and "Wall, **14**" added to better identify the location of Arc Detector, **96**, in Fig. 5 in the upper wall of chamber **10**. "ARC DETECTOR, **96**" has also been added to Fig. 5.

Figure 7 has been amended to include callouts for the elements described in the figure. As in Fig. 6, the word "Sterilizer" has been deleted, and "Lower" and "Wall, **16**" added to better identify the location of Evacuation System, **98**, in the lower wall of chamber **10**. "EVACUATION SYSTEM, **98**" has been added to Fig. 7.

Sheets 1-7 have also been amended to delete the sheet numbers thereon.